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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/579,312	05/16/2006	Herbert Lifka	NL 031357	1720

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EXAMINER	
DIAZ, JOSE	

ART UNIT	PAPER NUMBER
2879	

MAIL DATE	DELIVERY MODE
06/13/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/579,312	LIFKA ET AL.	
	Examiner	Art Unit	
	JOSE M. DIAZ	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 May 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 May 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 13 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 recites the limitation “said polymer substance" in page 11, line 23. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6-7, 9, and 12-14 rejected under 35 U.S.C. 102(b) as being anticipated by **Childs et al. (WO 03/079449), hereinafter Childs**.

Regarding **claim 1**, Childs clearly shows and discloses a display panel formed on a substrate (100) and comprising a plurality of display pixels (200) with at least one light emissive layer (22) and at least one electrode layer (23) deposited on or over the light emissive layer (22), wherein the display panel further comprises electrically conductive

structures (240) shunting the electrode layer (23) (fig. 8, page 5, lines 26-27 & 30, page 7, lines 18-19)

Regarding **claim 2**, Childs clearly shows and discloses that the display pixels (200) are separated by barrier structures forming the electrically conductive structures (240) and the electrode layer (23) contacts the barrier structures for shunting the electrode layer (23) (fig. 8, page 5, lines 26-27 & 30).

Regarding **claim 3**, Childs clearly shows and discloses that the barrier structures (240) of adjacent display pixels (200a & 200b) are in electrical contact (fig. 8, page 12, lines 11-13). As pointed out below the pixels 200a and 200b are connected in series. The current flows from the barrier 240 of the pixel 200a through the LED25a as a capacitive current reaching the barrier 240 of the pixel 200b.

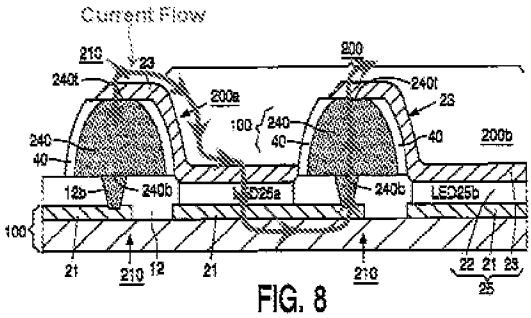

FIG. 8

Regarding **claim 4**, Childs clearly shows and discloses that at least one insulation layer (40) separates the light emissive layer (22) from the barrier structures (240) (fig. 8, page 9, lines 30-33).

Regarding **claim 6**, Childs clearly shows and discloses that the barrier structures (240) comprise side walls (SW, as pointed out bellow) having a substantially inclined orientation with respect to the substrate (100), the side walls (SW) being covered by an anodized insulating spacer layer (40) (fig. 17, page 15, lines 10-12).

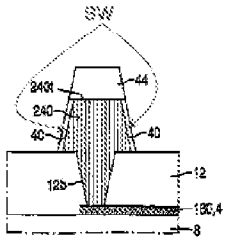

FIG. 17

Regarding **claim 7**, Childs clearly shows and discloses that the display panel further comprises structures (12) to locally separate the electrode layer (23) (fig. 8, page 9, line 21).

Regarding **claim 9**, Childs clearly shows and discloses that the barrier structures (240) are at least partially covered by at least one light absorbing electrically conductive layer (421) (fig. 6, page 11, lines 18-19, here it is disclosed that the electrode pads 421 can be formed of metal which is considered to be light absorbing, since alternately, the pads can formed of ITO which is a transparent conductive material).

Regarding **claim 12**, Childs clearly shows and discloses a method for manufacturing a display panel on a substrate (100) comprising the steps of: defining a plurality of display pixel areas (200) by deposition of electrically conductive barrier structures (240) on or over the substrate (100); filling the separated display pixel areas (200) bounded by the barrier structures (240) with at least one substance to form a light emissive layer (22); depositing an electrode layer (23) on or over the light emissive layer (22) and in contact with the barrier structures (240) (fig. 8, page 5, lines 26-27 & 30, page 7, lines 18-19, page 12, lines 1-19).

Regarding **claim 13**, Childs clearly shows and discloses the step of forming an insulating spacer layer (40) between the polymer substance (22) and the barrier structure (240) (fig. 8, page 7, lines19-21).

Regarding **claim 14**, Childs clearly shows and discloses the steps of:

providing a mask layer (44) on or over the barrier structures (240);

underetching the mask layer (44) to form substantially inclined side walls (SW, as pointed out on fig. 17 above) for the barrier structures (240); depositing an oxide insulating spacer layer (40) by executing an anodization treatment using a counter electrode and connecting the electrically conductive barrier structures (240) as a second electrode in an anodization bath (fig. 17, page 15, lines 9-24).

It is inherent that in an anodization process there will be a counter electrode, that the metal material to be anodized should become the second electrode, and that the process occurs when submerging the electrode in an electrolytic bath.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> a. A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Childs et al. (WO 03/079449), hereinafter Childs**, in view of **Lee (6952490),** in further view of **Kuwabara (20050057151)**.

Regarding **claim 5**, Childs clearly shows and discloses that the barrier layer (240) comprise side walls (SW, as pointed out on fig. 17 above) being covered by an insulation layer (40).

However, Childs fails to exemplify that the insulating layer is a hydrophobic insulation layer.

In the same field of endeavor, Lee clearly shows and discloses an insulating layer (12) made of a hydrophobic material (col. 4, lines 5-7), in order to prevent penetration of impurities into a conductor.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a hydrophobic insulation layer as taught by Lee in the device of Childs, in order to prevent penetration of impurities into a conductor.

The combination of Childs and Lee as discussed above shows the limitation claimed, except they do not specifically disclose that the hydrophobic insulation layer include a material such as an amorphous silicon layer or a photoresist layer as an insulating spacer layer.

In the same field of endeavor, Kuwabara clearly shows and discloses a hydrophobic insulation layer including a material such as amorphous silicon (¶ [0021],), in order to prevent penetration of impurities into a conductor.

There are a finite number of hydrophobic materials, it would have been obvious to try for a person of ordinary skill in the art at the time the invention was made to select a hydrophobic material such as an amorphous silicon as an insulating spacer layer as a matter of engineering design choice.

Claims 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Childs et al. (WO 03/079449), hereinafter Childs**.

Regarding **claim 8**, Childs discloses the barrier structure (240).

However, Childs fails to exemplify that the barrier structures are available at or near at least one edge of the display panel.

It is considered within the capabilities of one skilled in the art to provide barrier structures are available at or near at least one edge of the display panel as an obvious matter of engineering design since such modification would provide a greater display area, which is the trend in the art of display panels.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the barrier structures are available at or near at least one edge of the display panel as an obvious matter of design engineering, in order to maximize the display area of the display panel.

Regarding **claim 10**, Childs discloses a light absorbing electrically conductive layer (421) (fig. 6, page 11, lines 18-19, here it is disclosed that the electrode pads 421 can be formed of metal which is considered to be light absorbing, since alternately, the pads can formed of ITO which is a transparent conductive material).

However, Childs fails to exemplify that the light absorbing electrically conductive layer comprises an oxide material or an oxide-metal material combination.

Childs discloses indium tin oxide (ITO), i.e. a metal oxide, as an alternative material for the electrode pads (421). It is considered within the capabilities of one skilled in the art to select an opaque metal oxide, since selecting a suitable material for a conductor is considered as an obvious matter of engineering design.

Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to select a suitable material for a conductor such as an opaque metal oxide as an obvious matter of design engineering.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Childs et al. (WO 03/079449), hereinafter Childs**, in view of **Bechtel et al. (6873091), hereinafter Bechtel**.

Regarding **claim 11**, Childs clearly shows and discloses that the barrier structures (240) are fully reflective or covered with a reflective layer (page 15, lines 13-14 discloses that the conductive barrier material may comprises aluminum, which possess inherent reflective properties).

However, Childs fails to exemplify that the display panel further comprises a polarization layer.

In the same field of endeavor, Bechtel clearly shows and discloses display panel that comprises a polarization layer (col. 6, lines 8-10), in order to increase the contrast of display panel by suppressing the specular reflections.

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide a polarization layer as taught by Bechtel in the device of Childs, in order to increase the contrast of display panel by suppressing the specular reflections.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Childs et al. (WO 03/079449), hereinafter Childs**, in view of **Beilin et al. (6226171), hereinafter Beilin**.

Regarding **claim 15**, Childs clearly shows and discloses the claimed invention.

However, Childs fails to exemplify that the anodization bath contains water.

In the same field of endeavor, Beilin clearly shows and discloses an anodization bath containing water (col. 13, lines 52-54), in order to prevent defects in certain manufacturing processing steps, such as creating pin-hole defects in a dielectric layer (abstract).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to provide an anodization bath containing water as taught by Beilin in the device of Childs, in order to prevent defects in certain manufacturing processing steps, such as creating pin-hole defects in a dielectric layer.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JOSE M. DIAZ whose telephone number is (571)272-

9822. The examiner can normally be reached on 7:00 - 5:00 EST Monday-Thursday; Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/José M. Díaz/
Examiner, Art Unit 2879

/Mariceli Santiago/
Primary Examiner, Art Unit 2879